

## SPECIFICATION

To All Whom It May Concern:

Be It Known That I, Ray Tate, a citizen of the United States, whose full post office address is 435 Ray's Church Road, Bishop, Georgia 30621, have invented certain new and useful improvements in

WILLOW OAK TREE NAMED 'RT3'

CROSS-REFERENCE TO RELATED APPLICATIONS

None

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR  
DEVELOPMENT

N/A

LATIN NAME OF THE GENUS AND SPECIES OF THE PLANT CLAIMED

*Quercus phellos*

VARIETY DENOMINATION

'RT3'

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct variety of a Willow Oak tree (*Quercus phellos*) to which I have given the varietal name 'RT3'.

Discovery

I discovered my new variety of Willow Oak tree in the Summer, 2000, growing in a landscaped area of a shopping center parking lot in Athens, Clarke County, Georgia. The tree was growing among a group of cultivated Willow Oak trees which were planted at approximately the same time as my tree. The trees were installed as 2" field-grown trees sometime in 1986. The source of the tree

is unknown, so its age cannot be known with complete certainty. However, a 2" field grown tree would probably be approximately four (4) years old from a seed. I assume, therefore, that my tree is approximately 22 years old.

#### Propagation

'RT3' was asexually propagated at my direction in the Summer, 2001. This propagation and its resulting progeny have proven that my new variety has characteristics which are firmly fixed. Further, these observations have confirmed my new variety represents a new and improved variety of Willow Oak, as particularly evidenced by a narrow, upright, densely branched habit with a central leader and which can be reliably propagated asexually.

#### Uniqueness

'RT3' was observed to have a narrow, upright, densely packed habit with a central leader. These characteristics distinguish my new tree from other typical seedlings of Willow Oaks and known cultivars.

#### Use

'RT3' was observed for a period of time and is believed to be particularly useful in residential and commercial street plantings, lawns, parks, and other large areas, as well as smaller planting areas such as parking lots, and near buildings. The narrow habit of the 'RT3' Willow Oak makes it suitable for planting in areas which do not have sufficient space to accommodate a large-spreading tree typical of the species, such as around buildings in urban areas and commercial developments. The upright, dense branching habit and central

leader of my 'RT3' Willow Oak is advantageous to growers because it requires less labor to produce a quality, saleable tree. My tree has further demonstrated its suitability to grow in urban areas by virtue of its current location. The tree is presently growing in a narrow, concrete island which is approximately four feet (4') wide, and flanked on both sides by parking lots. My new tree has survived and remained healthy in this location since it was planted sometime in 1986.

## SUMMARY OF THE INVENTION

### Background

Seedling Willow Oaks have a spreading canopy which is often open in youth. A Willow Oak is a large, deciduous tree having a dense oblong-oval crown when the tree reaches maturity. On average, a Willow Oak reaches a height of 40'-60' and a width ranging from 30'-40'. The largest trees of the species will be on the order of 100' tall, and equally as wide. My new cultivar differs from the species in that it has a narrow, upright, densely branched habit with a central leader. The Willow Oak is native from New York to Florida, and west to Missouri, Oklahoma, and Texas. Willow Oak seedlings are grown commercially throughout the southeastern United States.

The tree does well in USDA Zones 5-9, and performs best in Zones 6-8. Willow Oaks are considered heat and drought tolerant, and one of the best oak trees for heat, drought, and humidity common throughout the Southeast; although the trees are also known to survive temperatures as cold as -25°F in areas such as Cincinnati, Ohio. The species also does well in the more arid

Midwestern portion of the country. Willow Oak trees are found growing in bottomlands, floodplains, and adjacent slopes. They prefer moist, well-drained soil, but adapt well to harsh conditions.

#### Industry Representation

Cultivated Willow Oak is represented in the industry primarily as seedling material. The species is typically pyramidal in youth, becoming spreading in maturity. As noted, the tree typically attains a height of 40'-60' and has a height-to-width ratio of approximately 1.0.

To my knowledge there are only two other clonally propagated Willow Oaks available. These are *Quercus phellos* Hightower, and *Quercus phellos* Wynstar. Both are recently introduced selections of Willow Oak. Hightower Willow Oak has a height-to-width ratio on the order of 1.61, and Wynstar a ratio of 1.22. After 22 years of growth, my new tree is 35' tall and 17' wide. This gives it a ratio of 2.06, making it significantly narrower than any other known Willow Oak cultivar or seedling. As shown in Fig. 1, my new tree further has significantly denser branching than other known Willow Oak cultivars or seedlings.

In my experience, no other seedling or cultivar of Willow Oak has displayed the growth habit of my Willow Oak 'RT3'. My new tree is currently 12.59" in caliper at a height 4' above the ground. This measurement is approximately 50% greater than other Willow Oak trees planted at the same site at the same time. Since the tree was planted in 1986, its annual caliper

development has been about 0.59" per year. Nursery grown Willow Oak trees in this area have an annual caliper increase of approximately 0.75"-1.00". I expect my new tree to grow equally as well when grown in a nursery setting.

#### DESCRIPTION OF THE DRAWINGS (PHOTOGRAPHS)

The accompanying photographs depict the color of the tree and the foliage of my new variety as nearly as is reasonably possible to make the same in a color illustration of this character.

Fig. 1 depicts my Willow Oak tree 'RT3' in its summer habit. As shown in the Fig., my tree has a narrow, upright, densely branching habit and canopy. The photograph was taken in the Summer, 2003, when the tree was approximately 22 years old, approximately 35' tall, approximately 17' wide, and having a caliper of 12.59".

Fig. 2 depicts the branching habit of my Willow Oak tree 'RT3'.

Fig. 3 depicts the trunk of my tree.

Fig. 4 depicts the upper leaf surface of my Willow Oak tree 'RT3'.

Fig. 5 depicts the underside or lower leaf surface of my tree.

Fig. 6 depicts acorns and caps from my tree.

#### DETAILED DESCRIPTION OF INVENTION

The following is a detailed description of my new variety of Willow Oak with color terminology in accordance with the Royal Horticulture Society (RHS) color chart, except where the context indicates a term having its ordinary dictionary meaning. My new tree has not been observed under all growing

conditions, and variations may occur as a result of different growing conditions. All the progeny of my new variety, insofar as has been observed, have been identical in all of the characteristics described below.

Other than as set out below, as of this time, no other characteristics have been observed which are different from common Willow Oaks which have been observed by the inventor.

Parentage: Seedling of unknown parentage grown from a seed purchased and planted in 1986 from an unknown source.

Locality where grown and observed: A shopping center parking lot in Athens, Clarke County, Georgia.

Leaves: Typical of the species; i.e., alternate, simple, narrowly elliptical, acuminate, acute and tipped with a bristle. The leaves are also entire, and are not often wavy as is sometimes seen in seedling trees. Further, the leaves are typically 1/3"-3/4" wide by 2 1/2"-3 1/2" long, medium green color above like RHS 141B and glabrous below like RHS 137D; fall color is typical of the species; yellow-bronze to slightly reddish brown, petiole: light green, 1/8"-1/4" long.

Buds: Typical of the species; imbricate, ovoid, and sharp pointed, 1/8"-1/4" long, dark brown in color.

Flowers: Typical of the species, monoecious, appearing on old and new growth, staminate catkins are pendant and clustered, individual flowers comprise a 4-7 lobed calyx enclosing 6 or more stamens, pistillate flowers are solitary or in few-to-many clustered spikes from the axils of the new leaves; individual flowers

comprise a 6-lobed calyx surrounding a 3-celled ovary the whole of which is partially enclosed in an involucre.

Fruit: Observed on the parent to be smaller than that of the species; ovate, ¼"-½" long and wide, short stalked and covered only at the base by a hemispherical shaped cap. The nut is striated with brown-black lines. None of the progeny have yet produced fruit, so it is not known at this time whether this trait is inheritable or affected by the parent tree's current growing conditions.

Stem: Typical of the species' slender, smooth, and reddish to dark brown.

Trunk: Typical of the species; mottled gray and black like RHS greyed-green 198D and RHS black 202B and smooth, developing narrow, shallow ridges and furrows with age.

Branching: Very upright ascending branches, emerging at and maintaining an approximately 30° angle from the trunk.

Growth habit: Narrow upright.

Root system: Probably typical of the species; Willow Oak has a more fibrous root system than most other species in the genus and transplants well.

Vigor: Above average. My new tree has outperformed 50% of the other trees planted at the same time at the same site. The progeny have performed better than average compared with the seedling groups.

Diseases: No disease problems have been observed in the parent or any progeny. This is typical of the species.



Pests: No insect problems have been observed on the parent or any progeny. This is typical of the species.